

Date: Friday, 12/9/2005 12:06:22 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : WEARPAD
Job Number : 25187	
Estimate Number : 11350	
P.O. Number : N/A	Part Number : D33401
This Issue : 12/9/2005 S.O. No. : N/A	Drawing Number : D3340 REV B
Prsht Rev. : NC	Project Number : N/A
First Issue : 12/9/2005 Type : PURCHASED PARTS	Drawing Revision : B
Previous Run : N/A	Material : N/A
Written By : <u>See comment below</u>	Due Date : 12/30/2005
Checked & Approved By : <u>See comment below</u>	Qty: 10 Um: Each
Comment : Est: A 05.11.10 Preliminary issue AP/EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0

PG

PURCHASING

**Comment:** PURCHASINGIssue P/O: 00000267 05/12/12

Email of ship DXF file to vendor

Laser Cut per Dwg D3340 flat pattern D3340-1

Material release note required

2.0

D33401F

Wearplate



Comment: Qty.: 1.0000 U(s)/Unit Total: 10.0000 U(s)
Wearshoe

3.0

PACKAGING 1

PACKAGING RESOURCE #1

**Comment:** PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material release note is attached

PC 05/12/30 10

4.0

QC6

DIMENSIONAL CHECK

**Comment:** DIMENSIONAL CHECK

Inspect dimensions

06-01-05 8 PTD Next page

5.0

BRAKE NC

NC BRAKE

**Comment:** NC BRAKE

Deburr if necessary

Form on brake as per Dwg D3340 using Jigs DT

and DT

SB 06/01/05 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 12/9/2005 12:06:22 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 25187

Part Number: D33401

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Job 06-01-05

Comment: INSPECT WORK TO CURRENT STEP

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

06 01 12 8

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

06/01/13 (5) cl

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *66*

06/01/13

(5)

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/06/13

Job Completion




u 06-01-13

P70

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06.01.05	1	Took 1 for template. Ident. by AS DT8836	J	06.01.05	1	JB 06.01.05	J 06.01.05

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: ☒ Date: _____

QA: N/C Closed: _____ Date: _____

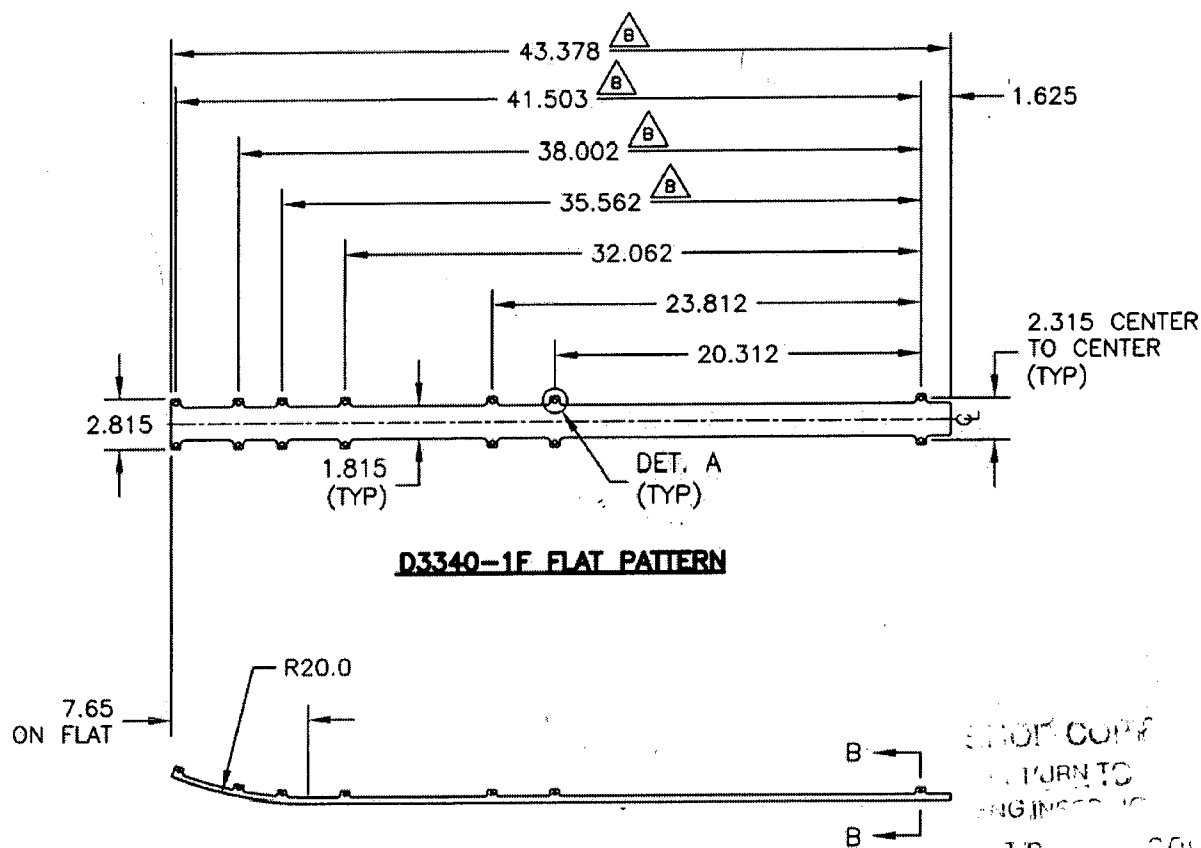
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06.01.05	1	1 scrap, middle hole badly deformed during laser cut. 	JB 06.01.05	Scrap: destroy.	J 06.01.05	J 06.01.05	JB 06.01.05	J 06.01.05

NOTE: Date & initial all entries



DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3340	REV. B SHEET 1 OF 11
DATE 05.11.22		TITLE SKIDTUBE PROTECTOR	SCALE 1:10
A	05.06.09	NEW ISSUE	
B	05.11.22	ADD DETAIL D, CORRECT FLAT PATTERNS D3340-1/-3/-7/-9/-13/-19/-23	

RELEASED
05.11.28



D3340-1F FLAT PATTERN

D3340-1 FORWARD SKIDTUBE PROTECTOR

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES COLD ROLLED STEEL 19 GAUGE (0.040 THICK)
- 2) PART IS SYMETRICAL ABOUT CENTER LINE
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP CORNERS 0.063 MAX

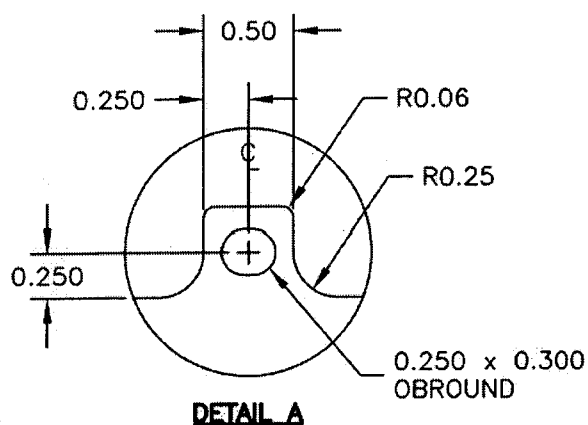
25187

Copyright © 2005 by DART AEROSPACE LTD

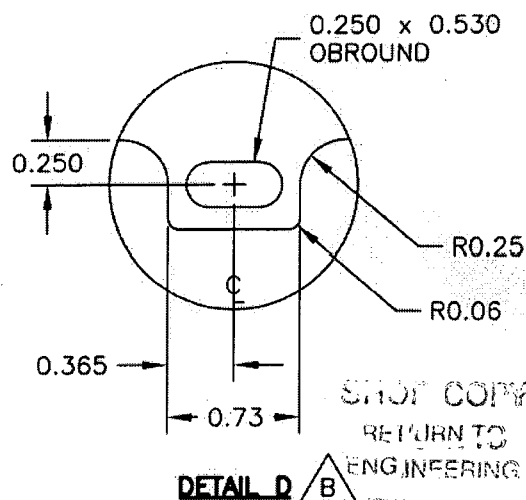
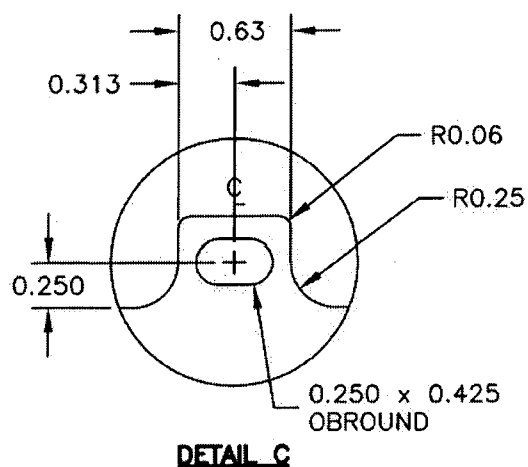
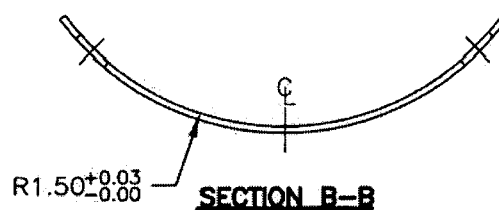
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3340	REV. B SHEET 11 OF 11
DATE 05.11.22		TITLE SKIDTUBE PROTECTOR	SCALE 1:1



RELEASED
05.11.28 [Signature]



SHOT COPY
RETURN TO
ENGINEERING



25187

Copyright © 2005 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

INSPECTION CERTIFICATE

MATERIAL TEST/INSPECTION CERTIFICATES

90229154

YIEH MAU CORP.

INVOICE NO.:
COMMODITY:

FORM 155
PRIME COLD ROLLED STAINLESS STEEL SHEET AISI 304 NO.4 (FC)
FINISH, WITH 100 MIC. FILM ON MAIN SIDE, WITH BACK-PASS,
SLITTED EDGE AISI 304, 2B FINISH, WITH PAPER INTERLEAVED,
SLITTED EDGE.
AISI 304

SPECIFICATION:
CUSTOMER: INTEGRIS METALS LTD

工廠: 高雄基地竹園路安地345號
245, SHUN AN RD, LU CHU HSANG
KAOHSUNG TAIWAN R.O.C.
TEL: (07) 4672115 FAX: (07) 4672006
CERTIFICATE NO: 9011192
DATE OF ISSUE: 1/24/2004

CUSTOMER :		INTEGRIS METALS LTD				Physical Properties Tensile Test GL-50mm					Chemical Composition (%)							
(ITEM NO) SIZE	NO.	Weight (N.W.)		Heat No.	ID NO.	Y.S. (N/mm ²)	T.S. (N/mm ²)	E.L. (%)	HRB	HV	C x100	Si x100	Mn x100	P x100	S x100	NE x100	Cr x100	N x100
		KGS	LBS															
AS1 304 2B (7425-4228)	1	1,465	3,230	YU231320	3AS44453B-21	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
24GA/48"X120"	1	1,464	3,228	YU231320	3AS44453B-22	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
24GA/48"X120" (7425-5860)	1	1,464	3,228	YU230510	38837609B-61	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
28GA/48"X96" (7425-5850)	1	1,375	3,031	YU230510	38837609B-52	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
22GA/48"X120" (7425-5880)	1	1,445	3,186	YU134975	3AS43434A-1	312	666	61	82	161	4.1	49	112	24	2	809	1821	2.8
18GA/48"X96" (7425-5880)	1	1,497	3,300	YU231066	3AS42732-4	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
18GA/48"X96" (7426-5819)	1	1,453	3,203	YU231066	3AS42732-5	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
18GA/48"X120"	1	1,455	3,208	YU231066	3AS42732-6	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
16GA/48"X120" (7426-5166)	1	1,423	3,137	YU231143	3AS42886A-6	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,424	3,139	YU231143	3AS42886A-7	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,420	3,131	YU231143	3AS42886B-1	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X96" (7426-7948)	1	1,441	3,177	YU231075	3AS42817A-1	302	650	52	83	162	4.2	48	119	28	6	806	1813	3.4
16GA/48"X96" (7426-8053)	1	1,441	3,177	YU231075	3AS42917A-2	302	650	52	83	162	4.2	48	119	28	6	806	1813	3.4
14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-3	302	650	52	83	162	4.2	48	119	28	6	806	1813	3.4
14GA/48"X120" (7426-8240)	1	1,420	3,131	YU231075	3AS42917A-4	302	650	52	83	162	4.2	48	119	28	6	806	1813	3.4
14GA/60"X96" (7426-8277)	1	1,446	3,188	YU135202	3AS45623A-211	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X120"	1	1,405	3,097	YU135202	3AS45623A-213	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X120"	1	1,540	3,395	YU135202	3AS45623A-214	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
		18	25,868	57,317														

Remarks:
NO MERCURY CONTAMINATION
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS
BEEN MADE IN ACCORDANCE WITH THE RULES OF THE MILL CERTIFICATE.

Best tested good for all Heat NO.
PRODUCT IN ACCORDANCE WITH ASTM A240, A490,
A262E, ASME SA240, Q35765D.

YIEH MAU CORP.

in *Yan Hsin*
Manager of Quality Assurance

2094 304 0455
(0.037)

po 267 196

13



New Zealand Steel Limited
Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8996 / 375 8111 Auckland
(09) 235 8069 / 235 3535 Waiuku
Fax: (09) 375 8959

TEST CERTIFICATE

Ref: 521022495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC112397
CUSTOMER O/N	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL O/N	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT															MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)							
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE()	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100			x1000										x10000		x100	180°			G.L.=	HRB	()	(feet)
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

PA: 227181
IN: 55031MD009

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	(C)=5mm x 5mm	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(A)=10mm x 10mm	(D)=2.5mm x 10mm	(A)=C+Mn/6
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65? So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4	(B)=7.5mm x 10mm	(E)=5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15
					(C)=C+Mn/6+Si/24
					(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Datish Misra*
QC METALLURGIST

16 ga ms

PO# 146, 267, 245,

551031MD009-1 T M INDUSTRIAL (P50323DI001: 641756)



New Zealand Steel Limited
Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8999 / 375 8111 Auckland
(09) 235 8089 / 235 3535 Wairakei
Fax: (09) 375 8959

TEST CERTIFICATE

Ref: 5379/23650

CUSTOMER Wilkinson		P50505-00002		SPECIFICATION ASTMA1008 CS Type A		Reissued 22/8/2005	
CUSTOMER O/N 90-21N-742				PRODUCT CRA WIDE COIL		CERTIFICATE No TC116858	
MILL O/N 486968				DIMENSIONS 0.033" x 48" x Coil		PAGE 1 of 1	
				DATE 19 August 2005			

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT														MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)								
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ()	BEND	YIELD	T.S.	%ELONG G.L.=	HARDNESS HRB	r ()	LENGTH (feet)
R9-466080-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					180°						
R9-466081-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700
R9-466082-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				50		2700
R9-466083-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651
																		Good				47		2651

Handwritten signature and date 06-01-05

YIELD (A)=0.2% PROOF STRESS (B)=LOWER YIELD STRESS	GAUGE LENGTH (G.L.)			PLASTIC STRAIN RATIO (r) (A)=r0 (B)=r90	IMPACT TEST (A)=10mm x 10mm (B)=7.5mm x 10mm	CARBON EQUIVALENT VALUE (CE) (A)=C+Mn/6 (B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15
	(A)=200mm (B)=50mm	(C)=80mm (D)=5.65? So	(E)=2" (F)=8"			

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

Handwritten signature: Satish Misra
QC METALLURGIST

Handwritten: 20 ga ~s

Handwritten: PO# 267, 146,